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## ASSIGNMENT BOOKLET 9A

Mathematics 4  
Module 9: Days 1–6

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**STUDENT FILE NUMBER**  
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Date Submitted:

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### FOR SCHOOL USE ONLY

Assigned Teacher:

Date Assignment Received:

Grading:

Teacher's Comments

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

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- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

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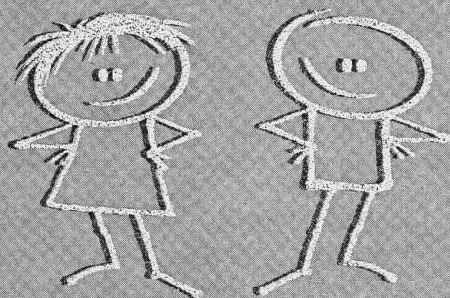
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# *Mathematics 4*

## Module 9 Investigating Outcomes



## Assignment Booklet 9A



Learning  
Technologies  
Branch

**Alberta**  
LEARNING

## FOR TEACHER'S USE ONLY

### Summary

	Total Possible Marks	Your Mark
Day 1	11	
Day 2	22	
Day 3	24	
Day 4	20	
Day 5	(1) 40	
	(2) 10	
Day 6	(1) 20	
	(2) 10	
	157	

### Teacher's Comments

This document is intended for

Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

Mathematics 4  
Module 9: Investigating Outcomes  
Assignment Booklet 9A  
Learning Technologies Branch  
ISBN 0-7741-1868-7

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# ASSIGNMENT BOOKLET 9A

## MATHEMATICS 4 – MODULE 9: INVESTIGATING OUTCOMES

### Notes to the Home Instructor

#### Learning Tasks

The nine mathematics modules and the accompanying Assignment Booklets have been developed so that students become involved in a variety of learning tasks that help them develop mathematical skills, learn how to communicate mathematically, and become mathematical problem solvers.

When completing the assignments, students should work carefully and neatly. Students should do the activities in the Assignment Booklets **independently**. This will ensure that the teacher acquires a more accurate picture of the student's ability and understanding.

If the student is having difficulties, he or she should review the appropriate sections in the Student Module Booklet. The home instructor can assist the student by reviewing these sections with the student and encouraging him or her to explain, describe, or demonstrate (using manipulatives, drawings, and so on) his or her understanding of a particular concept or idea.

#### Assessment and Evaluation

A broad range of assessment tools will be used to gather information for the purpose of evaluating the student's knowledge and understanding of curriculum skills and concepts. It is important that the teacher learns how the student thinks about mathematics as well as what concepts and skills the student has mastered. Assignment Booklet questions, journal entries, performance assessments, observations by the home instructor, and student self-evaluation pages may all be used. As well, the teacher may also use a final test.

In order to give the student and home instructor feedback on the student's current level of achievement throughout the school year, the student's teacher will provide written comments and assign a grade at the end of each module. The mark for each module will be determined primarily by how well the student completes the assignments in the Assignment Booklets. However, other broad-based assessment techniques (journal entries, performance assessments, and so on) may also be used.



22

## Day 2: Outcomes and Predictions

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1. What are two possible outcomes for the following events?

②

- a. You choose a jellybean from a bag containing orange jellybeans and black jellybeans.

Outcome 1: \_\_\_\_\_

Outcome 2: \_\_\_\_\_

②

- b. Your hockey team plays against the championship team.

Outcome 1: \_\_\_\_\_

Outcome 2: \_\_\_\_\_

③

2. Which of the following are **certain events** or outcomes? Put a check mark (✓) beside all of the certain events.

\_\_\_\_\_ a. You will close your eyes today.

\_\_\_\_\_ b. You will have a hamburger for supper.

\_\_\_\_\_ c. There will be one day of heavy snowfall in the mountains this year.

\_\_\_\_\_ d. The sun will set today.

\_\_\_\_\_ e. You will grow 5 cm this year.



3. Use your number cube to help you answer these questions. Answer **True** or **False** for each statement.

a. It is impossible to roll an even number. \_\_\_\_\_

b. It is certain that you will roll a 2 or a 3. \_\_\_\_\_

c. There is no chance of rolling a 7. \_\_\_\_\_

d. It is unlikely that you will roll a 1 on your first roll.  
\_\_\_\_\_

e. You have a better chance of rolling a 4 than a 5.  
\_\_\_\_\_

4. a. Test the following prediction by rolling your number cube 20 times and recording the results on the tally chart.

**Prediction: It is more likely to roll an even number than an odd number.**

Even Number	Odd Number

- ② b. Based on this trial of 20 rolls of the cube, is the prediction correct?  
Explain your answer.
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- ① c. What would you have to do to test the prediction even further?
- \_\_\_\_\_
- \_\_\_\_\_
- ③ 5. Think about the weather in your area. Give examples of possible weather predictions.
- a. There is a 100% chance of \_\_\_\_\_ today.
- b. There is a 50% chance of \_\_\_\_\_ tomorrow.
- c. Overnight, there is a 20% chance of \_\_\_\_\_.
- ② 6. Think about an impossible weather event for your area. Write a prediction about it, using a percentage to show the chance of it happening.
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

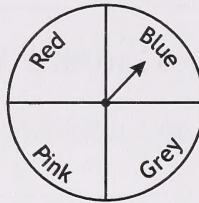
24

## Day 3: Probability and Spinners

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2

1. What are the possible outcomes on this spinner?



5

2. Looking at the spinner in question 1, use the terms **likely**, **unlikely**, **certain**, **uncertain**, **possible**, and **impossible** to describe the probability of the following outcomes.

- a. landing on blue \_\_\_\_\_
- b. landing on purple \_\_\_\_\_
- c. landing on red or blue \_\_\_\_\_
- d. landing on your favourite colour \_\_\_\_\_
- Explain. \_\_\_\_\_
- \_\_\_\_\_

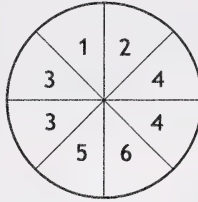
4

3. Looking at the spinner in question 1, write a fraction to tell the probability of the following outcomes.

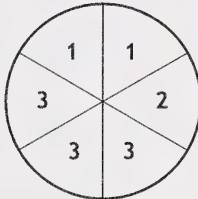
- a. landing on grey \_\_\_\_\_
- b. landing on blue \_\_\_\_\_
- c. landing on pink or red \_\_\_\_\_
- d. landing on blue, grey, or pink rather than red \_\_\_\_\_

⑤

4. Use this numbered spinner to compare the following outcomes. There is more than one correct answer for each statement.



- a. You are more likely to land on a 3 than on a \_\_\_\_\_.
- b. You are less likely to land on a 1 than on a \_\_\_\_\_.
- c. You are equally likely to land on a \_\_\_\_\_ as on a \_\_\_\_\_.
- d. You are more likely to land on a 4 than on a \_\_\_\_\_.
5. Erase the numbers on the large spinner that you used at the beginning of today's lesson. In each section write the numbers you see on the spinner below.



②

- a. Write a prediction about this spinner.

---

---

②

- b. Test your prediction by spinning 50 times and recording the results in the chart below. Use tally marks.

Outcome of 1	Outcome of 2	Outcome of 3

③

6. What were your results in 50 spins?

An outcome of 1: \_\_\_\_\_

An outcome of 2: \_\_\_\_\_

An outcome of 3: \_\_\_\_\_

①

7. Was your prediction correct? \_\_\_\_\_

20

## Day 4: Games, Hidden Outcomes, and Probability

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1. You are given a bag with different coloured beads in it. Six of the beads are purple. Four of the beads are orange.

① a. What is the probability of picking an orange bead from the bag?

\_\_\_\_\_

① b. What is the probability of picking a purple bead from the bag?

\_\_\_\_\_

① c. What is the probability of picking a yellow bead from the bag?

\_\_\_\_\_

- ③ 2. You are given a bag and a collection of pink and blue coloured beads. You are to place a total of ten beads in the bag. How many beads of each colour would you place in the bag in the following situations?

a. There is a 5 out of 10 chance of picking a pink bead.

\_\_\_\_\_ pink beads and \_\_\_\_\_ blue beads

b. There is a 2 out of 10 chance of picking a pink bead.

\_\_\_\_\_ pink beads and \_\_\_\_\_ blue beads

c. There is a 1 out of 10 chance of picking a pink bead.

\_\_\_\_\_ pink beads and \_\_\_\_\_ blue beads

3. These are the outcomes of three different trials to discover how many red tiles and how many brown tiles were placed in a paper bag that contained ten tiles.

	Red Tiles	Brown Tiles
Trial 1	3	7
Trial 2	4	6
Trial 3	5	5

- ① a. Which of the following estimates is **not** an accurate prediction of the contents of the paper bag? Circle your answer.

- one red tile and nine brown tiles
- four red tiles and six brown tiles
- five red tiles and five brown tiles
- three red tiles and seven brown tiles

- ② b. Explain your choice.

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4.

# Journal Entry

5

Think of a game that children play that can be won by luck. Think of another game that is won by the most skilled player, not the luckiest player. Describe the difference between the two games.

Lined area for journal entry.

5. Circle the answer to tell if the following games are fair or unfair. Then explain your choice.

③

- a. Joe and Trevor are playing a game with a number cube. The cube has the numbers 1 to 6 written on the sides. Joe says “If I roll a 3 or less, I win. If you roll a 4 or more, you win.”



Fair

Unfair

Explain your answer.

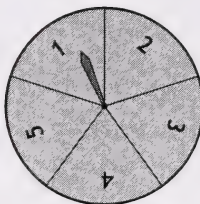
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③

- b. Janice and Lisa are playing a game using the spinner shown.



If Janice lands on an odd number, she gets two points. If Lisa lands on an even number, she gets two points.

Fair

Unfair

Explain your answer.

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## Day 5: Putting It All Together

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40

### Part 1: Reviewing the Concepts

Use what you have learned about outcomes, probability, and chance to complete the following questions. Look back in the Student Module Booklet if you need to review any of the concepts you have learned. You are to complete **all** of the questions in Part 1.

5

1. Write the word that **best** describes the following outcomes. Use words like **possible**, **impossible**, **certain**, **uncertain**, **likely**, and **unlikely**. More than one answer may be possible.
  - a. It rains cats and dogs. \_\_\_\_\_
  - b. The premier of the province visits your neighbourhood.  
\_\_\_\_\_
  - c. Your name is drawn from among 100 entries in a contest for a new computer. \_\_\_\_\_
  - d. You choose a vegetable snack from a tray of carrot sticks, celery, and radishes. \_\_\_\_\_
  - e. You talk to a friend on the telephone today. \_\_\_\_\_



2.

## Journal Entry

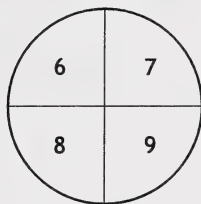
Think about a time when you were uncertain about the outcome of an event. Perhaps think of an exciting movie, an exciting sports event, or a time when you or your family had to make a decision about something. Describe the event, the outcomes that *might* have happened, and what the final result actually was. Would you have liked a different outcome?

[illegible]

3. What outcomes are possible when spinning these spinners?

1

a.



Possible outcomes:

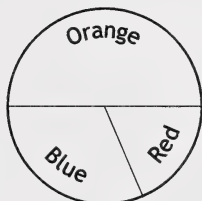
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1

b.



Possible outcomes:

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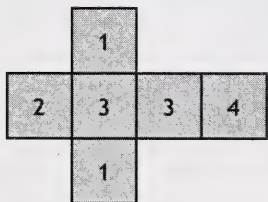
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4. Outcomes are often written as fractions. Write fractions to show the possible outcomes of rolling the number cubes made from these nets.

4

a.



An outcome of 1: \_\_\_\_\_

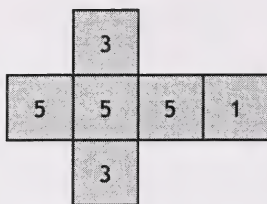
An outcome of 2: \_\_\_\_\_

An outcome of 3: \_\_\_\_\_

An outcome of 4: \_\_\_\_\_

③

b.



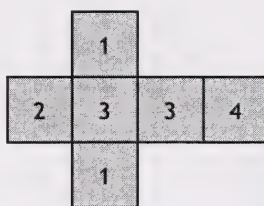
An outcome of 3: \_\_\_\_\_

An outcome of 5: \_\_\_\_\_

An outcome of 1: \_\_\_\_\_

⑤

5. Use this number cube net to answer the following questions.

a. Is it **possible** to roll a 5 with this cube?

\_\_\_\_\_

b. It is **most likely** that you will roll a \_\_\_\_\_ or a \_\_\_\_\_.c. It is **equally likely** that you will roll a \_\_\_\_\_ or a \_\_\_\_\_.It is also **equally likely** that you will roll a \_\_\_\_\_ or a

\_\_\_\_\_.

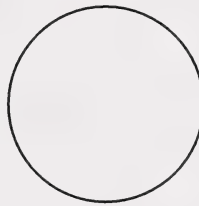
d. It is **less likely** that you will roll a 2 than a \_\_\_\_\_.

- ④ 6. Fractions can be used to describe outcomes. Write these outcomes as fractions. The first one has been done for you.

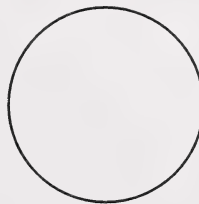
**Example:** 2 out of 10 chances =  $\frac{2}{10}$

- a. 5 out of 10 chances = \_\_\_\_\_
- b. 7 out of 10 chances = \_\_\_\_\_
- c. 70 out of 100 chances = \_\_\_\_\_
- d. 700 out of 1000 chances = \_\_\_\_\_
7. Colour the following spinners to show the outcomes that are described.

- ① a. You are equally likely to land on red or blue.

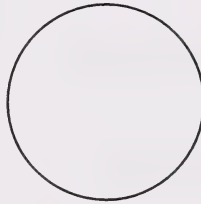


- ① b. You are more likely to land on yellow than red.



①

- c. The spinner contains the colours of pink, white, blue, and green. You are least likely to land on pink.



③

8. In this bag, there are ten jellybeans. Some are red and some are white. How would you conduct an experiment to discover how many of each colour are in the bag?



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9. Two children were playing a game with a number cube. The number cube had the numbers 1, 1, 2, 2, 3, and 3 on it.

One of the children made up the following rules:

- We take turns rolling the cube.
- If you roll an even number, you get two points.
- If I roll an odd number, I get two points.
- The first person to reach 30 is the winner.

②

- a. Is this a game of luck or a game of skill?

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②

- b. Is the game fair? \_\_\_\_\_

Why or why not? \_\_\_\_\_

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②

- c. Make one change to the game to make it different (more or less fair).

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10

## Part 2: Challenge Activities

Choose **either** Activity A **or** Activity B. You may do both if you wish.



### Activity A: Design a Carnival

Use the picture on pages 242 and 243 of your textbook to help you complete this activity. **Do not** copy the examples in the textbook. Change the ideas to help you complete your work.



Your job is to set up a small carnival that includes stands and booths like the ones shown on pages 242 and 243. Using what you have learned about possible outcomes and chance events, design three carnival stands. You must follow these instructions:

- One stand will be for a raffle.
- One stand will be a spinner for a prize.
- One stand will be a contest of your choice.
- At one of your stands, each person's **chance** of winning a prize is **very unlikely**.
- One of your stands must show that each person is **very likely** to win a prize.
- One of your stands must show that each person has an **equal chance** of winning or not winning a prize.

Draw a picture of your three carnival stands. Be sure to draw posters on each stand that will tell the price of a ticket, a spin, or a try, the prizes for winning, and any rules of the games. You do not have to include people in your drawing. Draw your picture in the space provided on the next page.



## Activity B: Design a Game or Contest

For this activity, you will design a simple game or contest that uses a coin, a spinner, or a number cube.

- Your game must have a name.
- Your game must have rules. You must write down the rules.
- All players must have an equal chance of winning.
- You must test your game by using a tally chart with the possible outcomes of at least 20 tries (spins, rolls, or tosses).

**My Game or Contest:** \_\_\_\_\_

### Rules of the Game:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

**Tally Chart:**

Is every player equally likely to win?

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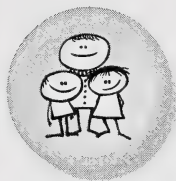
Are some players more likely to win than others?

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## Day 6: Assessing What You Know



### Home Instructor's Assessment Page for Day 6

#### Directions for the Home Instructor

Remove this sheet from the Assignment Booklet. Use the Checklist and Comments sections to help evaluate the student's work. When the Day 6 activities have been completed, firmly attach this sheet to Assignment Booklet 9A.

Student's Name \_\_\_\_\_

Home Instructor \_\_\_\_\_ Date \_\_\_\_\_

Indicate in the Checklist and Comments sections what you observe and hear as the student works through the assessment task. Encourage the student to “think out loud” as he or she works. As you observe, you may wish to use questions or prompts like the following to help in determining the student's level of understanding:

- What do you mean by an outcome?
- What do you mean by probability or chance?
- Give me some examples to explain what you mean.
- Can you write that another way? As a fraction?
- Show me all the outcomes you can get when you roll this number cube (or spin this spinner or draw from this bag).
- Why is it more (or less) likely to get this outcome than another outcome? What makes them equally likely?
- Why is this game (or contest) fair? What makes it fair?
- Why did you colour the fraction circle that way?

**Checklist**

**A.** The student can identify examples of the following outcomes:

- |              |                              |                                  |
|--------------|------------------------------|----------------------------------|
| • possible   | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| • impossible | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| • certain    | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| • uncertain  | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| • likely     | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| • unlikely   | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |

**B.** The student can compare two outcomes in the following ways:

- |                        |                              |                                  |
|------------------------|------------------------------|----------------------------------|
| • more and less likely | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| • equally likely       | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |

**C.** The student can determine the probability of specific outcomes when using a

- |                           |                              |                                  |
|---------------------------|------------------------------|----------------------------------|
| • number cube             | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| • spinner                 | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| • bag of coloured objects | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |

**D.** The student can accurately tally results of a probability experiment.

- |                              |                                  |
|------------------------------|----------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
|------------------------------|----------------------------------|

**E.** The student can describe ways to make games or contests of chance more or less fair.

- |                              |                                  |
|------------------------------|----------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
|------------------------------|----------------------------------|

**Comments**

Add any comments you have regarding the student's performance on the assessment task or any other information about the student's learning experiences in this module that you would like to share with the teacher.

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## Day 6: Assessing What You Know

### Student's Assessment Page for Day 6

20

Student's Name \_\_\_\_\_

## Part 1: Showing What You Can Do



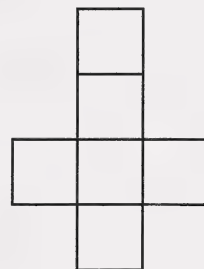
**Note:** You may use any manipulatives or cut-out learning aids available to help solve the following questions.

### Exploring Outcomes

5

1. Write numbers on the net for this cube to show the following outcomes:

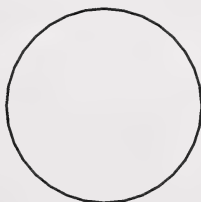
- The probability of rolling a 1 is  $\frac{1}{6}$ .
- The probability of rolling a 2 is  $\frac{1}{6}$ .
- The probability of rolling a 3 is  $\frac{0}{6}$ .
- The probability of rolling a 4 is  $\frac{2}{6}$ .
- The probability of rolling a 5 is  $\frac{2}{6}$ .



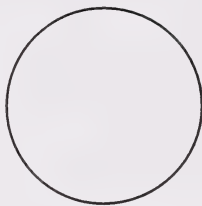
2. Draw a spinner for each of the following situations.

2

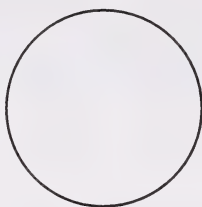
- a. You are more likely to spin yellow than green.



- ② b. You are equally likely to spin purple, pink, red, or orange.



- ② c. You are certain to spin an even number.



3. A bag contains ten coloured marbles. Three of the marbles are green, five of the marbles are blue, and two of the marbles are silver.

- ② a. What is the probability of picking a green marble?

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- ② b. Compare the probability (chance) of picking a blue marble to picking a silver marble.

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- ② c. Make some changes. What would you have to do in order to make it **more likely** to pick a silver marble than a green marble?

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- ③ 4. Use a number cube with the numbers 1 to 6 on it. Test the following prediction about the cube.

**Prediction: It is equally likely to roll a 4 as to roll a 5.**

Use a tally chart. Roll for 20 trials.

What did your results tell you about the prediction?

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---

10

## Part 2: Basic Number Facts



This section is made up of two timed tests. Ask your home instructor to time you as you do each test. Wait for your home instructor to tell you when to begin. **Do not mark these tests. They will be marked by your teacher.**

### 1. Addition Number Facts

**Timed Test: 1 minute**

5

$$\begin{array}{r} 6 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 9 \\ \hline \end{array}$$

$7 + 6 =$

$5 + 9 =$

$6 + 5 =$

$3 + 9 =$

$6 + 4 =$

$$\begin{array}{r} 6 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 6 \\ \hline \end{array}$$

$3 + 8 =$

$5 + 8 =$

$3 + 6 =$

$4 + 8 =$

$7 + 5 =$

$$\begin{array}{r} 9 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$$



If you finish before the one minute is up, check your answers. Wait for your home instructor to tell you when to begin the next test.

⑤

## 2. Subtraction Number Facts

Timed Test: 1 minute

$$\begin{array}{r} 12 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ - 8 \\ \hline \end{array}$$

$13 - 4 =$

$15 - 8 =$

$16 - 7 =$

$13 - 6 =$

$12 - 9 =$

$$\begin{array}{r} 14 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ - 7 \\ \hline \end{array}$$

$15 - 9 =$

$12 - 4 =$

$11 - 8 =$

$14 - 8 =$

$15 - 6 =$

$$\begin{array}{r} 16 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ - 5 \\ \hline \end{array}$$



If you finish before the one minute is up, check your answers.

## Part 3: Thinking About What You Know

Part 3 gives you a chance to assess your own knowledge and abilities in mathematics. Take a few minutes before you begin writing to look back through your Student Module Booklet (Days 1–5). On what days did you learn new things that you didn't know before? Was there anything you found difficult or hard to understand? What things did you enjoy? What things would you like to know more about?

Using complete sentences, finish the following paragraph starters. If necessary, talk over your ideas with your home instructor before you begin writing.

1. I think the first part of this module, Investigating Outcomes, is mainly about

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2. Some new things I learned in this section of the module are

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3. One thing I like about Investigating Outcomes is

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4. Something I would like to learn more about is

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5. Something else I'd like to say is

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---

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AL-8-8000-1-3  
N=344  
C.3  
v.3

**ASSIGNMENT BOOKLET 9B**

Mathematics 4  
Module 9: Days 7–14

**Home Instructor's and Student's Comments:**

**STUDENT FILE NUMBER**  
(if label is missing or incorrect)

Date Submitted:

**Apply Module Label Here**

**Name**

**Address**

**Postal Code**

*Please verify that preprinted label is for  
correct course and module.*

**FOR SCHOOL USE ONLY**

Assigned Teacher:

Date Assignment Received:

Grading:

**Teacher's Comments**

\_\_\_\_\_  
**Teacher's Signature**

**Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.**

# INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

## MAILING

### 1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

**Send all letters in a separate envelope.**

### 2. Postage Rates

**Take your Assignment Booklet to the post office and have it weighed. Attach enough postage** and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

## FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.
2. All faxing costs are the responsibility of the sender.

## E-MAILING

Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

# *Mathematics 4*

## Module 9 Investigating Outcomes



## Assignment Booklet 9B



Learning  
Technologies  
Branch

Alberta  
LEARNING

## FOR TEACHER'S USE ONLY

### Summary

	Total Possible Marks	Your Mark
Day 7	28	
Day 8	60	
Day 9	35	
Day 10	56	
Day 11	50	
Day 12	50	
Day 13	70	
Day 14	55	
	404	

### Teacher's Comments

This document is intended for

Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

Mathematics 4  
Module 9: Investigating Outcomes  
Assignment Booklet 9B  
Learning Technologies Branch  
ISBN 0-7741-1869-5

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# ASSIGNMENT BOOKLET 9B

## MATHEMATICS 4 – MODULE 9: INVESTIGATING OUTCOMES

### Notes to the Home Instructor

#### Learning Tasks

The nine mathematics modules and the accompanying Assignment Booklets have been developed so that students become involved in a variety of learning tasks that help them develop mathematical skills, learn how to communicate mathematically, and become mathematical problem solvers.

When completing the assignments, students should work carefully and neatly. Students should do the activities in the Assignment Booklets **independently**. This will ensure that the teacher acquires a more accurate picture of the student's ability and understanding.

If the student is having difficulties, he or she should review the appropriate sections in the Student Module Booklet. The home instructor can assist the student by reviewing these sections with the student and encouraging him or her to explain, describe, or demonstrate (using manipulatives, drawings, and so on) his or her understanding of a particular concept or idea.

#### Assessment and Evaluation

A broad range of assessment tools will be used to gather information for the purpose of evaluating the student's knowledge and understanding of curriculum skills and concepts. It is important that the teacher learns how the student thinks about mathematics as well as what concepts and skills the student has mastered. Assignment Booklet questions, journal entries, performance assessments, observations by the home instructor, and student self-evaluation pages may all be used. As well, the teacher may also use a final test.

In order to give the student and home instructor feedback on the student's current level of achievement throughout the school year, the student's teacher will provide written comments and assign a grade at the end of each module. The mark for each module will be determined primarily by how well the student completes the assignments in the Assignment Booklets. However, other broad-based assessment techniques (journal entries, performance assessments, and so on) may also be used.

28

## Day 7: Module 1 Review—Data Management

1. Alanna and Lennie have decided to do a survey to find out if it would be a good idea to offer a “pet care” service in their neighbourhood during the summer months. They want to have many customers, so they decide to collect data on the kinds of pets that people have, the kind of care their pets need, the times of day that care would be needed, and whether they need pet care while they are away on summer holidays.

③

- a. Write **three** questions you could ask in order to gather data about pets and pet care.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

①

- b. Which question would you choose if you could only use one question on your survey?

\_\_\_\_\_

③

- c. Explain how you would conduct the survey. How many people would you ask? Who would you ask?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. The following responses show what kinds of pets people have.

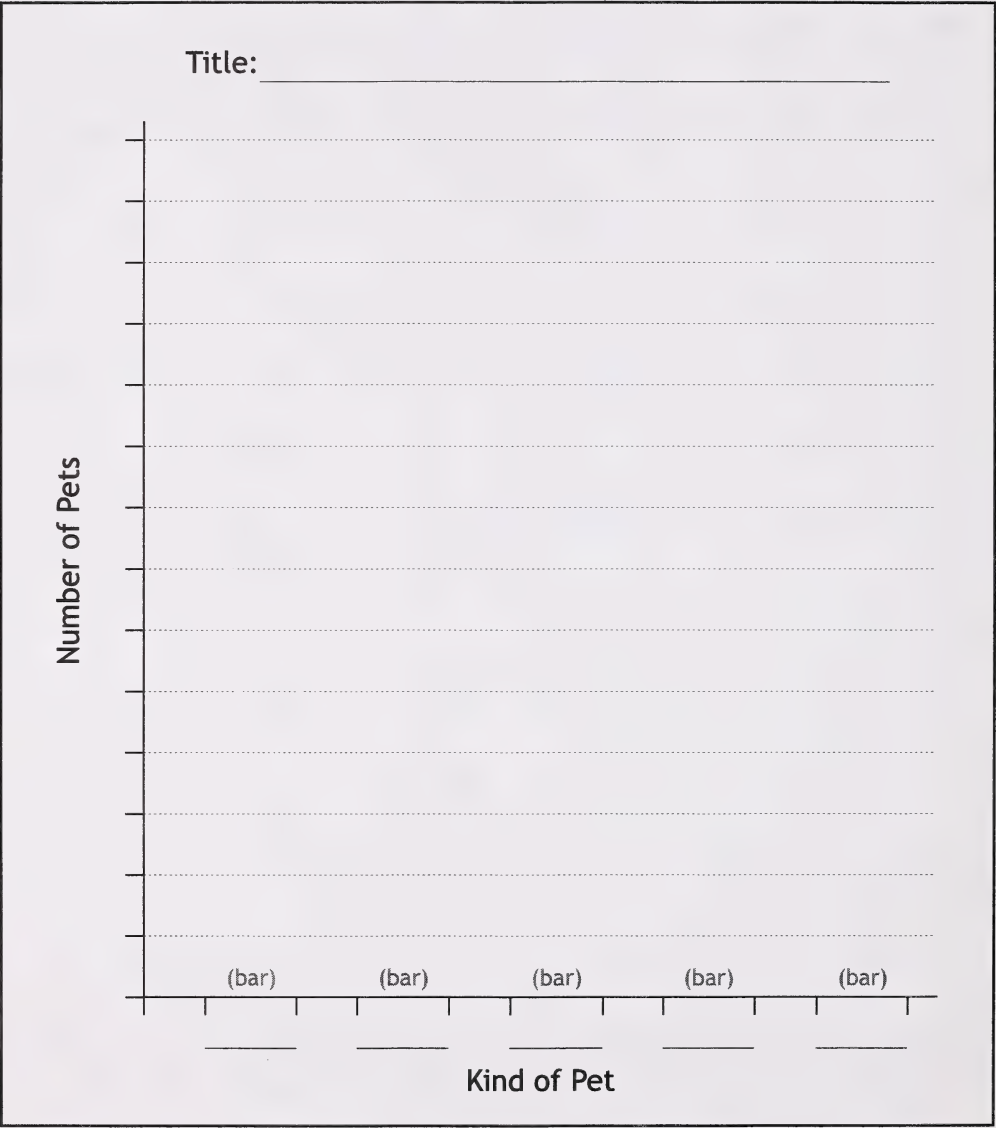
**Response Chart**

dog	dog	bird	fish	cat	cat
cat	cat	dog	bird	dog	dog
cat	dog	cat	cat	hamster	cat
cat	hamster	bird	fish	dog	dog
dog	cat	cat	dog	bird	cat

- ③ a. Draw a tally sheet of the results shown in the response chart.

- ③ b. Construct a bar graph of the results shown in the response chart. Do the following to complete the bar graph:
- Number the vertical axis from 0 to 14.
  - Write each kind of pet on a line along the horizontal axis.

- Draw and colour a bar to show the number for each kind of pet.  
Use one-to-one correspondence.
- Write a title at the top of the graph.



④




















- c. Construct a pictograph of the same results. Use a different symbol for each pet. Use a many-to-one correspondence (2 pets = 1 symbol). Be careful of your spacing and the size of your symbols. Don't forget to show a legend below the graph.

Title: \_\_\_\_\_

Legend:	

3. Look carefully at the data presented in the pictograph. Then answer the questions that follow.

**Jewelry Sales in January**

Rings	    
Watches	  
Chains	     
Earrings	    

Each symbol represents 10 items.

- ② a. What is the graph about? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- ② b. How many rings were sold? \_\_\_\_\_ How do you know?  
 \_\_\_\_\_
- ① c. How many more chains were sold than watches? \_\_\_\_\_
- ① d. How many items of jewelry were sold in all? \_\_\_\_\_

⑤

4. Use what you know about problem solving to do the following problem. Remember to follow the four-step process.

The Johnston family is having a family reunion on the weekend. They plan to have a slowpitch tournament. There will be five teams numbered 1 to 5. Over the weekend, each team will play each other team twice. How many games will be played in all?

60

## Day 8: Module 2 Review—Number Concepts and Patterns

---

- ① 1. Estimate how many stars there are in the picture. Do not actually count the stars. Use a strategy that helps you give a close guess. \_\_\_\_\_



- ② 2. What is the actual number of stars in the picture? \_\_\_\_\_

How close was your estimate? \_\_\_\_\_

- ② 3. Describe a time when you or a family member used an estimated number rather than an actual number to count or measure something. What everyday problem did estimating help solve?

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4. Think of a four-digit number. You can use zero only once in your number.

Write your number here: \_\_\_\_\_

- ② a. Show your number in a base ten drawing.

- ② b. Write the number in words.

---

---

- ② c. Write the number in expanded form.

---

- ② d. Show the number in two different ways on a place-value chart.

Thousands	Hundreds	Tens	Ones

- ③ 5. a.  $848 =$  \_\_\_\_\_ hundreds \_\_\_\_\_ tens \_\_\_\_\_ ones
- ④ b.  $3072 =$  \_\_\_\_\_ thousands \_\_\_\_\_ hundreds \_\_\_\_\_ tens \_\_\_\_\_ ones
- ⑤ c.  $27\,040 =$  \_\_\_\_\_ ten thousands \_\_\_\_\_ thousands \_\_\_\_\_ hundreds  
 \_\_\_\_\_ tens \_\_\_\_\_ ones

- ② 6. Write thirty-two thousand two hundred fifteen in digits.

\_\_\_\_\_

- ② 7. Write 14 306 in expanded form.

\_\_\_\_\_

- ⑤ 8. Write these numbers in correct order from least to greatest.

8429

8249

8942

8924

8492

\_\_\_\_\_

Least

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Greatest

- ③ 9. What is the value of the 7 in each of the following numbers?

a. 9473 \_\_\_\_\_

b. 7910 \_\_\_\_\_

c. 63 527 \_\_\_\_\_

- ② 10. Round each number to the nearest ten.

a. 536 \_\_\_\_\_

b. 9448 \_\_\_\_\_

- ② 11. Round each number to the nearest hundred.

a. 536 \_\_\_\_\_

b. 9448 \_\_\_\_\_

- ② 12. Round each number to the nearest thousand.

a. 5368 \_\_\_\_\_

b. 9448 \_\_\_\_\_

- ③ 13. Complete the T-table.

Number of Hours	Money Earned
1	\$2.50
2	\$5.00
3	\$7.50
4	_____
5	_____
6	_____

**14.** Fill in the missing numbers in each number pattern.

②

**a.** 42, 48, \_\_\_\_\_, 60, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

②

**b.** 0, 8, 16, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

②

**c.** 65, 60, 55, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

②

**d.** 20, 40, 60, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

③

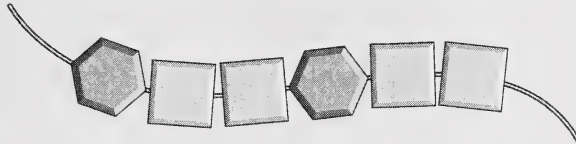
**15.** Use a T-table to help you solve this problem.

Jake is building seven towers from wooden blocks. The first tower needs 8 blocks. The second tower needs 11 blocks. The third tower needs 15 blocks. The fourth tower needs 20 blocks. How many blocks will be needed for the fifth, sixth, and seventh towers?

③

16. Use what you know about problem solving to do the following problem. Remember to follow the four-step process.

Brittany is making a bracelet for her friend. She is planning on continuing the same pattern all the way around the bracelet. Brittany's pattern looks like this.



What shape will the 12th bead be?

35

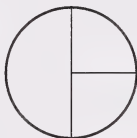
## Day 9: Module 3 Review—Fractions and Decimals

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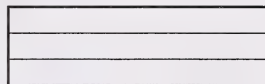
②

1. Which figures show thirds? Circle them.

a.



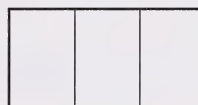
b.



c.



d.



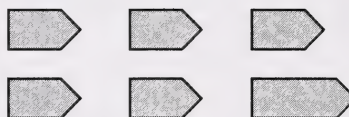
①

2. Which set does not show sixths? Circle it.

a.



b.



②

3. Draw an object or figure that shows eighths.

②

4. Draw each fraction as a shaded set or figure.

a.  $\frac{1}{2}$

b.  $\frac{3}{5}$

②

5. Write each fraction in words.

a.  $\frac{9}{10}$  \_\_\_\_\_

b.  $\frac{12}{15}$  \_\_\_\_\_

②

6. Circle the **denominator** in this fraction. Draw a box around the **numerator**.

$$\frac{4}{9}$$

②



a. What fraction of these animals can fly? \_\_\_\_\_

b. What fraction of these animals can bark? \_\_\_\_\_

②

8. What number is in the **tenths** place of these decimal numbers?

a. 0.57 \_\_\_\_\_

b. 3.96 \_\_\_\_\_

②

9. What number is in the **hundredths** place of these decimal numbers?

a. 6.43 \_\_\_\_\_

b. 320.58 \_\_\_\_\_

②

10. Show the number 7.4 in a base ten drawing.

⑥

11. Write the following decimal numbers in words and fractions.

a. 0.64 Words: \_\_\_\_\_

Fraction: \_\_\_\_\_

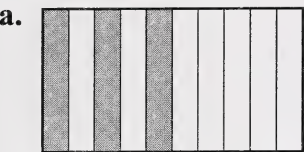
b. 0.8 Words: \_\_\_\_\_

Fraction: \_\_\_\_\_

c. 0.32 Words: \_\_\_\_\_

Fraction: \_\_\_\_\_

2 12. Circle the number that matches each picture.



- 0.3
- 0.7
- 1.3
- 0.07



- 2.2
- 0.02
- 2.22
- 0.2

6 13. Fill in the chart with the correct responses.

Fraction	Decimal Number	Number in Words
$\frac{2}{10}$		
	0.7	
		eighty hundredths

2 14. Hanna and her mother shared a bag of popcorn at the movie on the weekend. Hanna ate  $\frac{4}{10}$  of the popcorn. Her mother ate 0.5 of the popcorn. Who ate more popcorn? How do you know?

56

## Day 10: Module 4 Review—Addition and Subtraction

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1. Decide which **math operation** you would use to solve each problem. Write the name of the operation on the line below each problem. **You do not have to solve the problem.**

addition

subtraction

multiplication

division

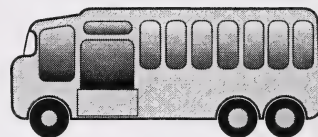
①

- a. Last week Trent had \$538.56 in his savings account. Since then, he has spent \$44.50 on a new computer game. How much money is in the account now?

Operation: \_\_\_\_\_

①

- b. The bus driver was asked to take 50 people on a trip to the museum. Each person was charged \$3.00 for the trip. How much money did the bus driver collect?



Operation: \_\_\_\_\_

①

- c. One hundred library books are being given to a rural school. They need to be put in 8 boxes to be shipped to the school. How many books will be put in each box?

Operation: \_\_\_\_\_

①

- d. Darci donated 45 bottles to the bottle drive. Kim gave 83 bottles. Patrick gave 64 bottles. How many bottles were collected in all?

Operation: \_\_\_\_\_

- ④ 2. Show how these three numbers can be added together in two different ways. Think of the order property of addition.

$$6 + 4 + 8$$

- ④ 3. Write all the related number facts for  $6 + 7 = \square$ .

- ④ 4. Write a word problem for the equation  $17 - 9 = \square$ . Then solve the problem.

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- ④ 5. Solve the following addition and subtraction questions. You may need to use regrouping.

a. 
$$\begin{array}{r} 84 \\ + 46 \\ \hline \end{array}$$

b. 
$$\begin{array}{r} 937 \\ - 481 \\ \hline \end{array}$$

c. 
$$\begin{array}{r} 2953 \\ + 358 \\ \hline \end{array}$$

d. 
$$\begin{array}{r} 4905 \\ - 1554 \\ \hline \end{array}$$

6. Solve the following word problems. Show your work. Remember to write a sentence answer.

- ③ a. Joey has 125 hockey cards. Samantha has 97 cards. How many more cards does Joey have?

---


---

- ③ b. Three children were attending summer camp. One child travelled 309 km, another travelled 460 km, and the last child travelled 285 km. What was the total distance they travelled?

---

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- ③ 7. Draw a base ten diagram to show how you would add  $135 + 97$ . Show regrouping.



+



= \_\_\_\_\_

8. Estimate the sum or difference for each problem by rounding. Show your estimates. Then find the exact answer.

- ② a. A tire warehouse sold 368 tires on Thursday, 296 tires on Friday, and 440 tires on Saturday. How many tires were sold in all?

Estimate	Exact Answer

②

- b. Jackie and her cousins need \$525.00 in order to buy tickets to a concert. So far, they have earned \$286.00. How much more money do they need to earn?

Estimate	Exact Answer

②

9. Solve this problem. Then use the reverse operation to check the solution to the problem.

$$\begin{array}{r} 739 \\ + 386 \\ \hline \end{array}$$

②

10. Use mental math to find the answer to each question.

a.  $3003 + 4000 =$  \_\_\_\_\_      b.  $69 + 69 =$  \_\_\_\_\_

④

11. Write each of the following as a decimal number.

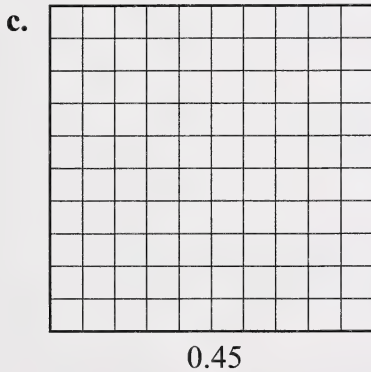
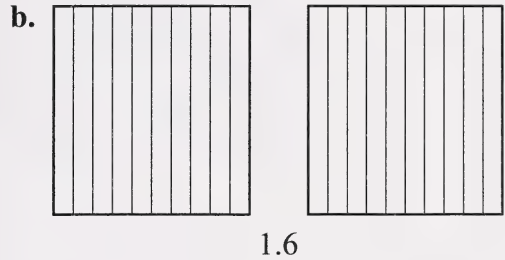
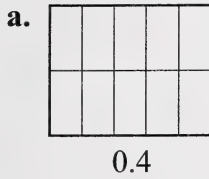
a. six and nine tenths \_\_\_\_\_

b. thirteen and four tenths \_\_\_\_\_

c. twenty-one hundredths \_\_\_\_\_

d. one and seventy-eight hundredths \_\_\_\_\_

- ③ 12. Shade in the correct amount to show each decimal number.



- ② 13. Write each of these amounts using a dollar sign and a decimal.

a. sixty-four cents \_\_\_\_\_

b. one dollar and seven cents \_\_\_\_\_

- ② 14. Write these amounts in words.

a. \$103.87 \_\_\_\_\_

b. \$52.59 \_\_\_\_\_

④

15. Lara bought a cactus plant and two small ferns at the plant shop. The cactus cost \$3.65 and each fern cost \$2.50. She paid for the plants with a 10-dollar bill. How much change did she get back? (Show your calculations and your solution.)



**16.** Choose the best method of calculation to solve each of the following problems. Choose from these methods:

- manipulatives
- pencil and paper
- calculator
- mental math
- estimation

**You do not have to solve the problems.**

②

- a.** Tanya wanted to know the number of phone calls placed to her parents' home office for the first week of June. Her phone survey showed these results:

Day	Number of Calls
Monday	14
Tuesday	22
Wednesday	28
Thursday	37
Friday	51

Method of calculation: \_\_\_\_\_

②

- b.** Holly had a basket of groceries to take to the cashier. She only had \$15.00 to pay for them. In her basket were items costing \$0.59, \$1.39, \$3.50, \$5.99, and \$0.99. Does she have enough money to pay for all the groceries?

Method of calculation: \_\_\_\_\_

50

## Day 11: Module 5 Review—Multiplication

③

1. Solve these problems quickly in your head.

a.  $52 \times 100 =$  \_\_\_\_\_

b.  $1000 \times 88 =$  \_\_\_\_\_

c.  $40 \times 90 =$  \_\_\_\_\_

d.  $2 \times 4 \times 4 \times 5 =$  \_\_\_\_\_

e.  $38 \times 1 =$  \_\_\_\_\_

f.  $0 \times 198 =$  \_\_\_\_\_

⑤

2. Fill in the blanks to finish each skip count.

a. 3, 6, 9, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

b. 4, \_\_\_\_\_, 12, 16, \_\_\_\_\_, \_\_\_\_\_

c. 7, 14, 21, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

②

3. Write one addition sentence and one multiplication sentence for this picture.



Addition sentence: \_\_\_\_\_

Multiplication sentence: \_\_\_\_\_

④

4. Answer **True** or **False** to each statement.

a. In the sentence  $6 \times 9 = 54$ , 54 is called a product. \_\_\_\_\_

b.  $32 \times 4$  is not equal to  $4 \times 32$ . \_\_\_\_\_

c. A number multiplied by zero is equal to zero. \_\_\_\_\_

d. There is only one method to multiply a two-digit number by a one-digit number. \_\_\_\_\_

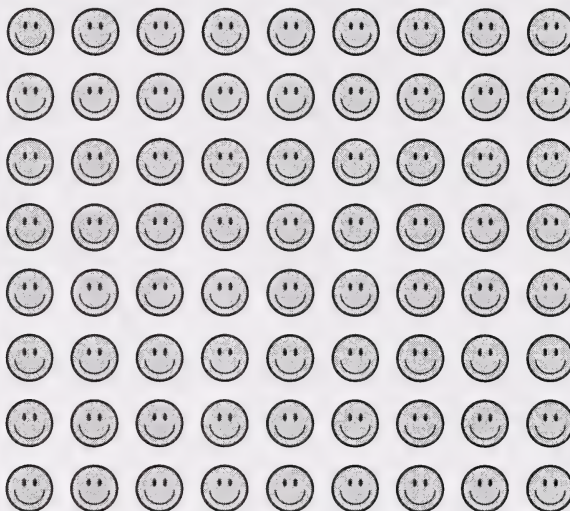
②

5. Draw an array that shows the fact  $8 \times 5$ . Then complete the multiplication sentence.

Solution:  $8 \times 5 =$  \_\_\_\_\_

③

6. Split this array into two smaller arrays to make it easier to solve the problem  $8 \times 9$ . Draw a line to show where you split the array.



What are the multiplication sentences for each part?

• \_\_\_\_\_ • \_\_\_\_\_

③

7. Write a word problem that tells about the fact  $9 \times 5 = 45$ . Show your solution to the problem.

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③

8. Group the factors in this problem in two different ways and solve the problem.

$$4 \times 3 \times 2 = 4 \times 3 \times 2$$

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

9. Estimate each product first by rounding the larger number up or down. Then solve the problem. Show your thinking and your calculations.

③

a.  $67 \times 5 =$  

Estimate:

Actual answer:

③

b.  $310 \times 8 =$  

Estimate:

Actual answer:

- ⑤ 10. Draw base ten blocks on the place-value mat to show how you would multiply  $73 \times 4$ . Show regrouping and your solution.

Hundreds	Tens	Ones

$$73 \times 4 = \underline{\hspace{2cm}}$$

- ② 11. Multiply by expanding.

a.  $15 \times 6 = (\underline{\hspace{1cm}} + \underline{\hspace{1cm}}) \times 6$   
 $= (\underline{\hspace{1cm}} \times 6) + (\underline{\hspace{1cm}} \times 6)$   
 $= (\underline{\hspace{1cm}}) + (\underline{\hspace{1cm}})$   
 $= \underline{\hspace{1cm}}$

② b.  $76 \times 2 = \underline{\hspace{2cm}}$   
 $= \underline{\hspace{2cm}}$   
 $= \underline{\hspace{2cm}}$   
 $= \underline{\hspace{2cm}}$

- ② 12. Multiply by using the long form of multiplication.

a. 
$$\begin{array}{r} 85 \\ \times 4 \\ \hline \end{array}$$

b. 
$$\begin{array}{r} 258 \\ \times 5 \\ \hline \end{array}$$

- ② 13. Multiply by using the short form of multiplication.

a. 
$$\begin{array}{r} 77 \\ \times 3 \\ \hline \end{array}$$

b. 
$$\begin{array}{r} 319 \\ \times 4 \\ \hline \end{array}$$

14. Solve the following word problems. **Estimate** your answer first. Write a multiplication sentence and a word sentence for each.

- ③ a. Seven tour buses arrived at the hotel to unload passengers for an overnight stay. Each bus held 52 people. How many passengers arrived at the hotel on the tour buses?

Estimate: \_\_\_\_\_

③

- b. The hotel charged \$115 per night for a hotel room. If a passenger decided to stay at the hotel for a week, how much would it cost?

Estimate: \_\_\_\_\_

50

## Day 12: Module 6 Review—Division

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3

1. Write a division sentence and draw a sketch showing how you would solve this problem.

Hannah and three friends were sharing 20 felt markers given to their group for an art project. How many markers would each person get if they are shared equally?

Division sentence: \_\_\_\_\_

3

2. Write a division word problem for this sketch. Solve and use a division sentence.



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Division sentence: \_\_\_\_\_

- ③ 3. How many boxes would you need to store 21 videotapes if each box will hold 7 tapes?

Division sentence and solution: \_\_\_\_\_

- ⑤ 4. Circle the division sentences with an answer of 8.

$56 \div 8 =$

$32 \div 4 =$

$18 \div 2 =$

$24 \div 4 =$

$63 \div 9 =$

$48 \div 6 =$

$28 \div 4 =$

$54 \div 6 =$

$16 \div 2 =$

$25 \div 5 =$

$40 \div 5 =$

$72 \div 9 =$

- ② 5. Write the division sentence for the following number line.



Division sentence: \_\_\_\_\_

- ⑬ 6. Fill in the blanks.

a. 40, 35, 30, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, 0

b.  $35 \div 35 =$  \_\_\_\_\_

c.  $54 \div 1 =$  \_\_\_\_\_

d.  $0 \div 42 =$  \_\_\_\_\_

e.  $120 \div 10 =$  \_\_\_\_\_

f.  $240 \div 3 =$  \_\_\_\_\_

g.  $6300 \div 100 =$  \_\_\_\_\_

h.  $540 \div 60 =$  \_\_\_\_\_

i. 45 hot dogs  $\div$  5 packages = \_\_\_\_\_ hot dogs per package

②

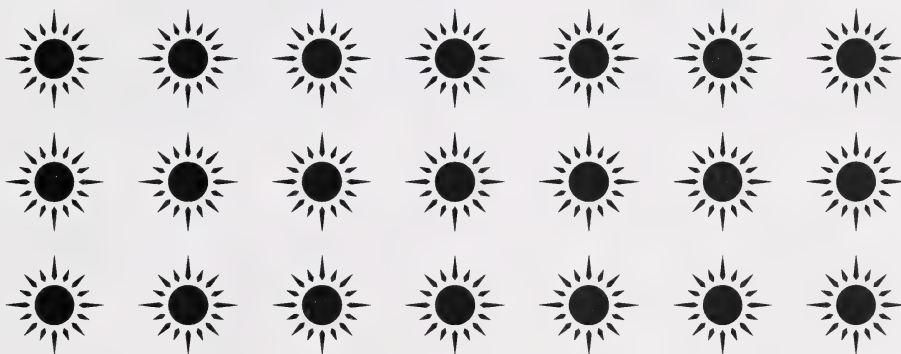
7. Write the division sentence shown by this picture.



Division sentence: \_\_\_\_\_

④

8. Write two division sentences and two multiplication sentences for the following array.



• \_\_\_\_\_ • \_\_\_\_\_

• \_\_\_\_\_ • \_\_\_\_\_

②

9. What related multiplication fact will help you estimate  $43 \div 8 =$  ?

\_\_\_\_\_

②

10. Solve these remainder problems. Use a related fact to help you estimate and solve. Write the remainder.

a.  $23 \div 7 =$  \_\_\_\_\_

b.  $37 \div 6 =$  \_\_\_\_\_

②

11. Use multiplication facts to check the solution to this division question.  
Show your thinking.

$$26 \div 3 = 8 \text{ R } 1$$

②

12. Solve. Show your work.

$$6 \overline{)51}$$

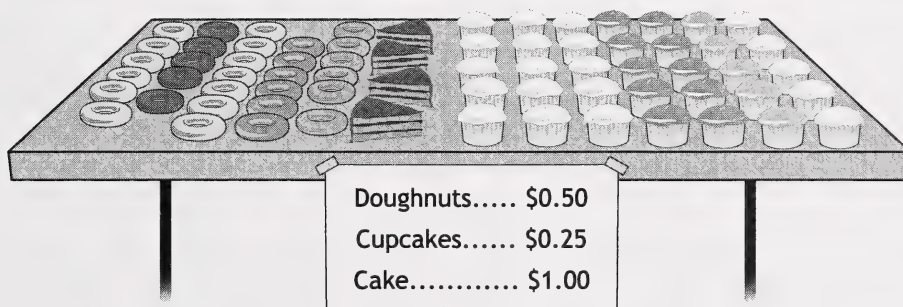
②

13. Solve. Show your work.

$$2 \overline{)63}$$

- ⑤ 14. Solve this problem. Remember to follow the four-step process. Show your work.

You and your family are visiting a nearby Farmer's Market. Your mother has given you \$2.00 to buy a treat for your family. You have decided to buy some fresh baking. The prices are marked on the sign. How many different combinations of treats can you buy for your family if you spend all of the money?



ANSWER TO THE PROBLEM

70

## Day 13: Module 7 Review—Measurement



1.

### Journal Entry

Describe a time when you had to measure the length of something in your home or yard. How did you go about measuring? What kind of unit did you use? Was it important to have an exact measurement or was an estimate best?

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2

2. Write **length**, **height**, or **distance** to tell what is being measured in each place.

a. \_\_\_\_\_



b. \_\_\_\_\_

5

3. List these units of measurement in order from **greatest** to **least**.

decimetre	metre	millimetre	kilometre	centimetre
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Greatest \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Least \_\_\_\_\_

1

4. Which of the following would best be measured in **kilometres**? Circle the answer.

- a. length of a football field
- b. distance from Regina to Saskatoon
- c. length of a city block

1

5. Which of the following would best be measured in **centimetres**? Circle the answer.

- a. height of an apartment building
- b. length of your driveway
- c. width of your hand

2

6. Measure this line with your centimetre ruler. Write the measurement in two different units.



• \_\_\_\_\_ cm

• \_\_\_\_\_ mm

② 7. a. 3 cm = \_\_\_\_\_ mm      b. 5.9 cm = \_\_\_\_\_ mm

② 8. a. 4 m = \_\_\_\_\_ cm      b. 8.2 m = \_\_\_\_\_ cm

② 9. In each pair of measurements, circle the one that is **larger**.  
(Hint: You may need to change one of the units.)

a. 3.4 cm    35 mm

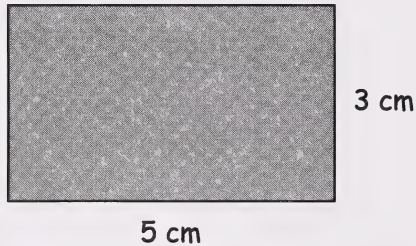
b. 1.2 m    119 cm

② 10. In your own words, tell what is meant by the **perimeter** of a figure.

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② 11. Calculate the **perimeter** of this **rectangle**. Show your work.



②

12. Draw a **square** with a perimeter of 16 cm in the space below. Use your ruler.

③

13. If the perimeter of a field shaped like a triangle is 25 m, and two of the sides are 12 m and 8 m long, how long is the other side of the field?  
Show your work.

③

14. You have been asked to find the circumference of a soccer ball.  
Describe how you would go about measuring the soccer ball to find its circumference.

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②

15. Write these area units in short form.

a. square centimetres \_\_\_\_\_

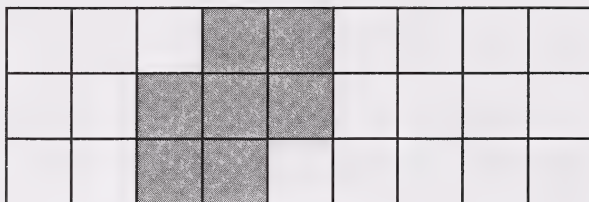
b. square metres \_\_\_\_\_

- ② 16. List two things that would be measured using **square metres**.

- \_\_\_\_\_
- \_\_\_\_\_

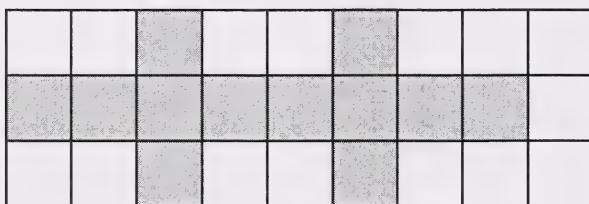
- ② 17. What is the area (in square centimetres) of each shaded figure?

a.



Area = \_\_\_\_\_  $\text{cm}^2$

b.



Area = \_\_\_\_\_  $\text{cm}^2$

- ③ 18. Find the area of a field that is 10 m long and 8 m wide. Draw a sketch and show your calculations.

- ② 19. Two items in your home that would hold **less than 1 L** would be a \_\_\_\_\_ and a \_\_\_\_\_.

- ④ 20. If a measuring cup holds **250 mL**, how many cups would it take to fill containers that hold the following amounts?
- a. 500 mL = \_\_\_\_\_ cups      b. 1000 mL = \_\_\_\_\_ cups
- c. 1 L = \_\_\_\_\_ cups      d. 1.5 L = \_\_\_\_\_ cups
- ③ 21. Use **estimation** and rounding to find three items in this group of measures of capacity that would total about **1 L**. Circle the three items.
- |                       |                      |
|-----------------------|----------------------|
| tomato paste (156 mL) | hand lotion (305 mL) |
| soup (215 mL)         | toothpaste (125 mL)  |
| beans (398 mL)        | fruit (365 mL)       |
| shampoo (450 mL)      | juice (250 mL)       |
- ② 22. a. 2 kg = \_\_\_\_\_ g      b. 3.7 kg = \_\_\_\_\_ g
- ② 23. a. 5 L = \_\_\_\_\_ mL      b. 7.1 L = \_\_\_\_\_ mL
- ③ 24. In one week, Blake ate 435 g of peanut butter from a container that holds 1 kg of peanut butter. How much peanut butter was left? Show your work.

- ③ 25. Mandi bought a new set of art pencils that cost \$12.75. She paid for them with a 20-dollar bill. How much change did she get? What combination of coins and bills could she receive as the change?
- ③ 26. a. A man was born in 1975. How old will he be in 2045?
- ① b. How many decades old will he be? \_\_\_\_\_

②

27. Draw in the correct time on the following clocks. Use a moon ☾ to

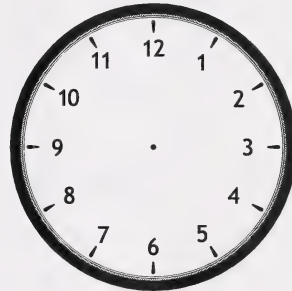
show P.M. and a sun ☀ to show A.M.

a.



2:20 P.M.

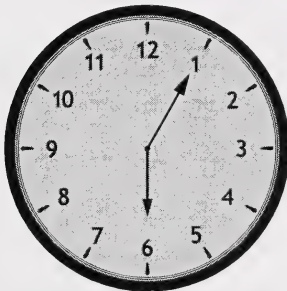
b.



10:35 A.M.

②

28. Write the correct time for each analogue clock on the line.



a. \_\_\_\_\_



b. \_\_\_\_\_

55

## Day 14: Module 8 Review—Geometry

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1. Draw these lines and angles. Use a ruler.

①

a. two intersecting lines (One of the lines must be vertical.)

①

b. three parallel lines

①

c. a horizontal line

①

d. a right angle

①

e. a ray

① f. an angle larger than a right angle

① g. two perpendicular lines

⑦ 2. Write the name of each 2-D figure or 3-D solid.

a.



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b.



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c.



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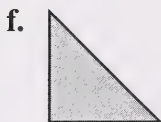
d.



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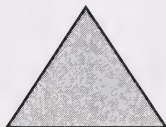
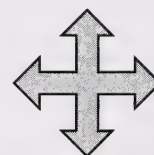
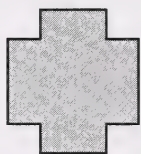

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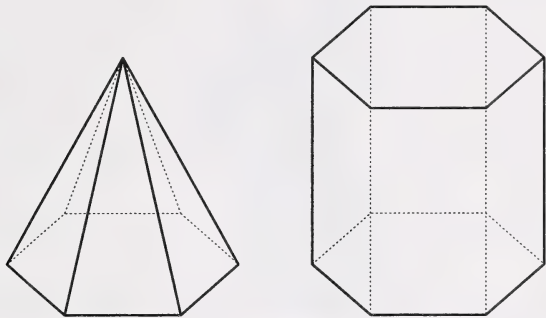
④

3. Which of these figures shows symmetry? Circle the figures. Draw a line of symmetry on each of the circled figures.



12

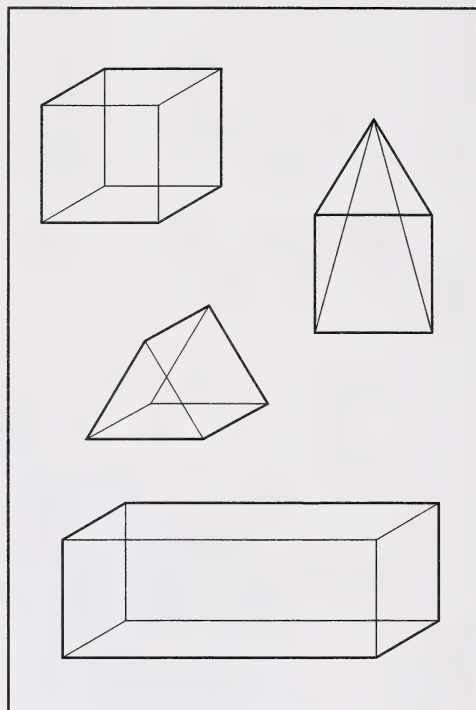
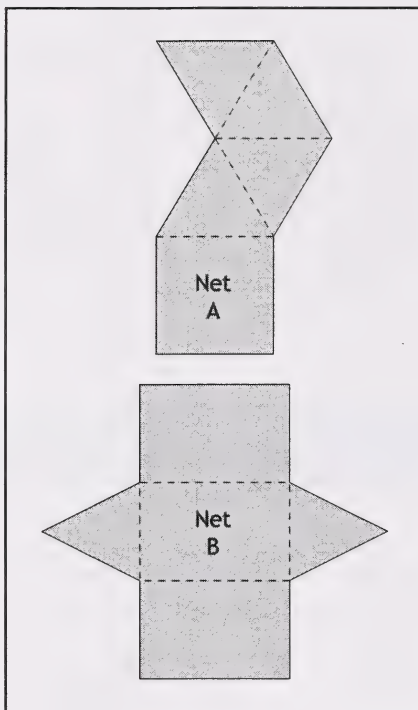
4. Compare the two solids shown. Fill in the correct information on this chart. Refer to your own models if you wish.



	Hexagonal-based Pyramid	Hexagonal Prism
Total Number of Faces		
Number of Edges		
Number of Vertices		
Shapes of Faces		
Any Right Angles?		
Any Parallel Faces?		

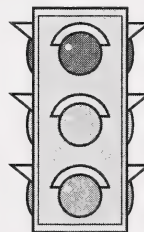
②

5. Draw lines to join each net to its matching solid.



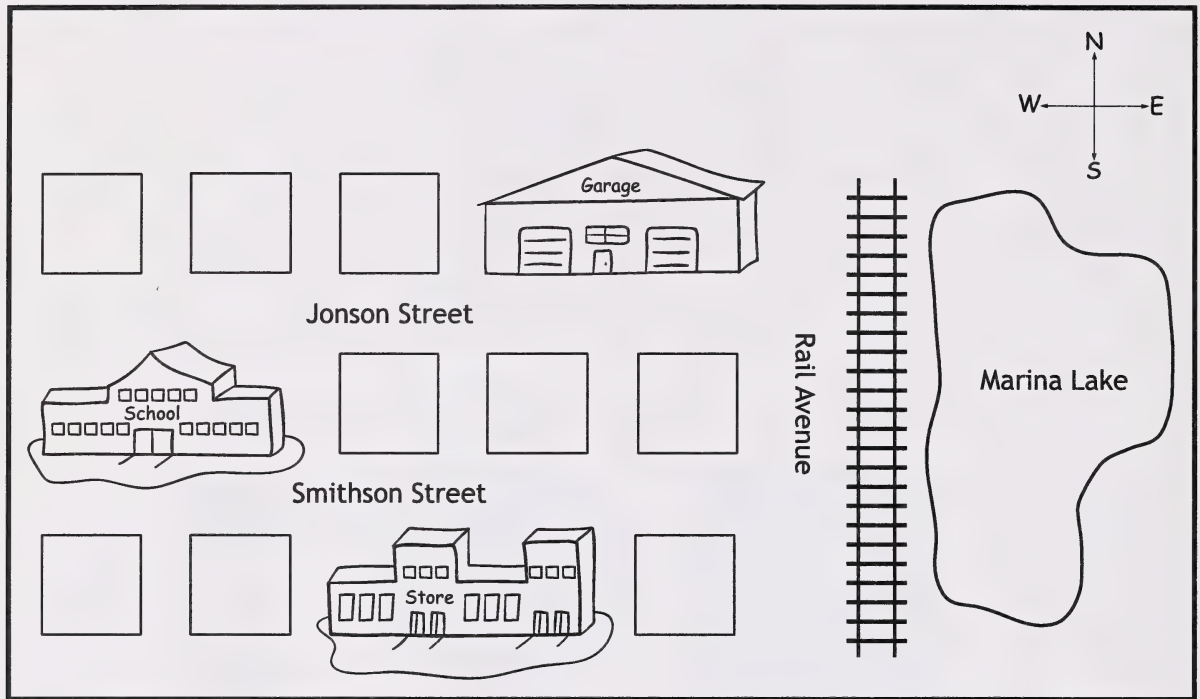
- 5 6. Answer the questions about the following drawings. Use words like **north, northwest, northeast, west, east, south, southwest, and southeast.**

- a. The stop sign is \_\_\_\_\_ of the traffic light.
- b. The handicapped parking sign is \_\_\_\_\_ of the no smoking sign.
- c. The traffic light is \_\_\_\_\_ of the slippery road sign.
- d. The no smoking sign is \_\_\_\_\_ of the stop sign.
- e. The deer crossing sign is \_\_\_\_\_ of the stop sign.



④

7. Answer the questions about this map.



- a. \_\_\_\_\_ and \_\_\_\_\_ are parallel streets.
- b. The school is on the \_\_\_\_\_ side of Jonson Street.
- c. With a red crayon, mark an X where Smithson Street intersects Rail Avenue.

⑤

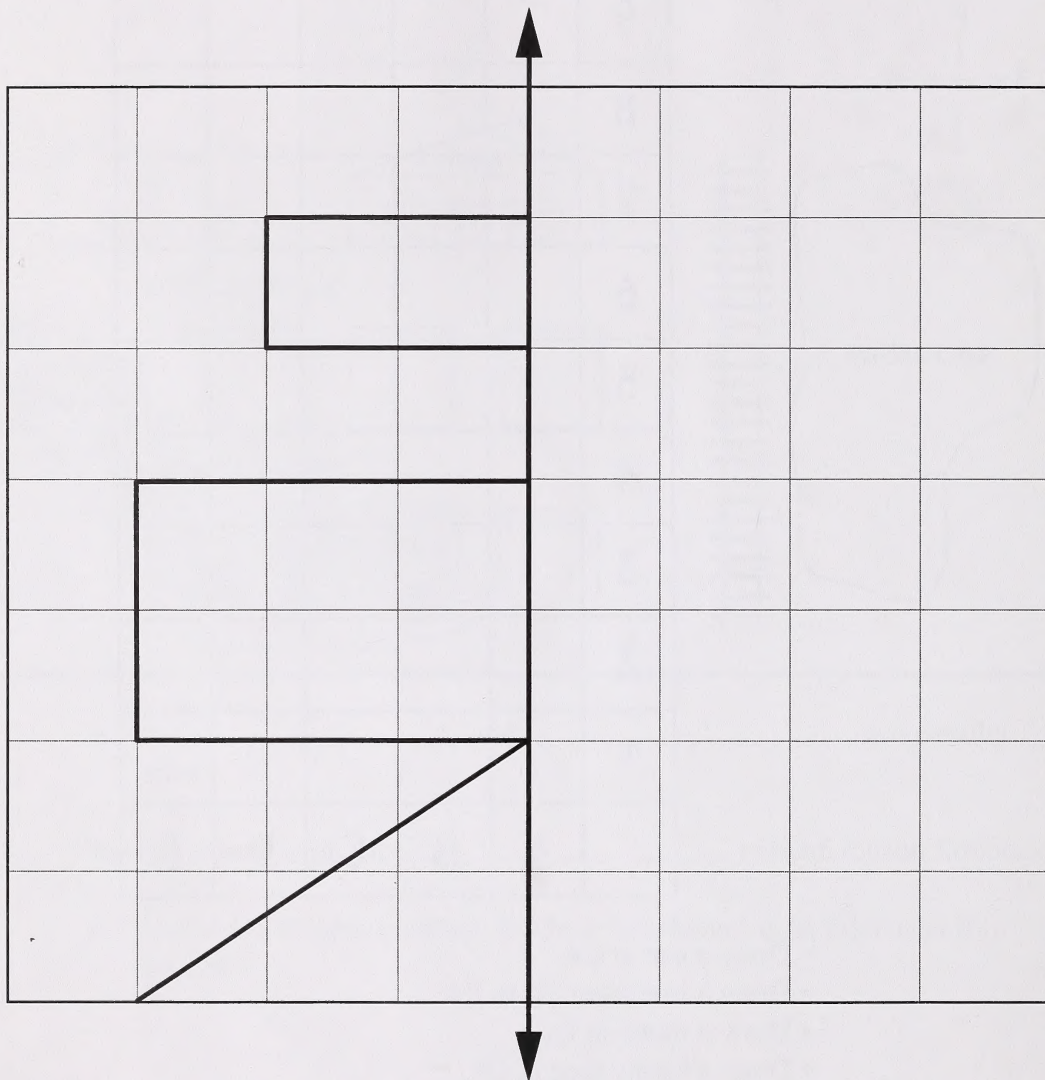
8. Use this grid to draw the objects in the correct places.

9					
8					
7					
6					
5					
4					
3					
2					
1					
	A	B	C	D	E

- Draw a star at C4.
- Draw a line from C4 to E4.
- Draw a moon at E4.
- Draw a happy face at D8.
- Draw an X at A2.

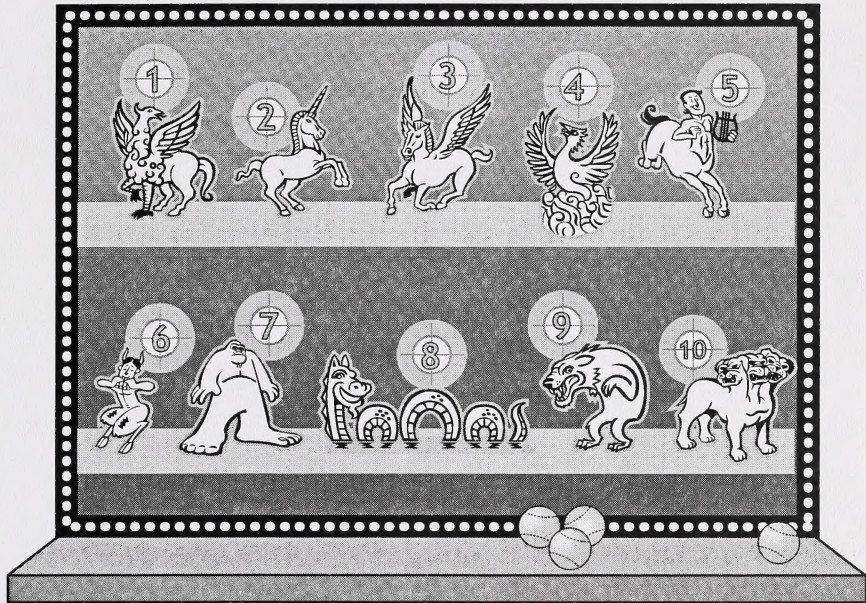
④

9. Use the grid below to finish drawing the figure so that it will show symmetry.



5

10. Solve this problem. Show your work.



Carmen played a game at the carnival. He threw balls to knock down cardboard animals with points from 1 to 10 printed on them. When the animals were knocked down, they were not stood up again. He knocked down an animal with each throw. His score after 8 throws was 51 points. Which two animals were left standing?



Mathematics 4  
Assignment Booklet 9B  
Module 9

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